

CHAPTER IV DETAIL DESIGN

Conditions under which roundabouts *may be appropriate*

- Intersections warranting safety improvements (crash rate/severity, visibility, movement separation)
- Intersections with design-year entering peak-hour volumes typically not exceeding 2,400 to 2,800
- Intersections with unusual geometrics
- As an alternative to a low- or medium-volume signal
- As an alternative to all-way stop control
- Intersections with high side-street delays
- Intersections at which signal warrants are not met but delay problems still exist
- Intersections with high left- or U-turn volumes
- Intersections with five or more legs
- Locations with right-of-way limitations on approaches
- Locations at which road character changes (i.e. 55 to 35 mph, rural to urban, divided to undivided)

Conditions under which roundabouts *may NOT be appropriate*

- Intersections with design-year entering peak-hour volumes exceeding 2,400 to 2,800
- Locations with grades exceeding 3% or topography that might limit visibility, complicate construction or create unsafe conditions
- Locations with right-of-way limitations at the intersection
- Roadways on which a lack of large gaps caused by signal-related platooning could cause undesirable effects either upstream or downstream of a roundabout
- Intersections with unbalanced traffic, where major street traffic might be unduly delayed
- Locations with heavy pedestrian or bicycle movements; pedestrian special need areas
- Locations near emergency facilities (such as hospitals or fire stations) that could be negatively impacted by the inability to preempt traffic
- Locations with nearby generators of significant traffic that might have trouble negotiating the roundabout (such as high volumes of oversized trucks)

Conditions under which roundabouts *WILL NOT be used*

- Locations with physical/geometric complications that make it impossible/uneconomical to construct a roundabout
- Routes where large vehicles will frequently use the intersection and sufficient space is unavailable
- Locations with nearby traffic control devices requiring preemption (railroad tracks, drawbridges)
- Locations with nearby bottlenecks that would routinely back up into the roundabout (overcapacity signals, freeway entrance ramps)
- Isolated intersections within a coordinated network
- Roadways with reversible lanes

Appropriate and Inappropriate Sites for Roundabouts